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KEYWORDS	ABSTRACT
Patient safety; Resource-constrained healthcare; Healthcare quality; Safety culture; Pakistan	Patient safety is a major issue in healthcare systems, especially in low-resource environments where human, budgetary, structural and technical resources are limited and lead to higher risk of preventable harm. This study aimed to explore patient safety issues and address the challenges and opportunities in resource-limited health care settings in Pakistan. Secondary data analysis of qualitative descriptive research design adopted. Peer-reviewed relevant articles from literature, policy documents, government publications, institutional reports and international health reports were purposively selected and thematically analyzed. The evidence was then coded and then summarized based on Braun and Clarke's thematic analysis framework into common themes for patient-safety issues, organizational and systemic issues and opportunities for improvement. The results revealed five themes that were interrelated: resource and staffing limitations, the lack of a strong safety culture and error reporting, communication and teamwork, healthcare-worker training and competencies, and opportunities for system-level improvement. Analysis reveals that the factors that pose the greatest risk to patients' safety are insufficient staffing, too heavy a workload, insufficient infrastructure, insufficient reporting systems, and insufficient consequences for errors. Organizational learning, teamwork, professional education, better leadership and incident reporting, however, are good opportunities for enhancing safety practices. In conclusion, the study suggests that patient safety in Pakistan needs to be handled in a systems-based and context-sensitive approach, taking into account resource constraints and practices. Building the capacity of the healthcare workforce, safety culture, communication, reporting and learning systems, and institutional governance can play a role in mitigating preventable harm and promoting the quality and safety of healthcare services.
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Introduction

Patient safety is an integral part of the healthcare quality and a growing global public health issue. It includes the actions taken to avoid and/or minimize avoidable harm from health care processes and systems. While medical science and health care technology has improved, unsafe care is still a challenge. Patient harm is recognized as a significant burden globally (World Health Organization, 2024a) and is a consequence of multiple failures, such as clinical practice, organizational systems, health system employees, communication, and health system conditions. The WHO's Global Patient Safety Report 2024 also reveals that, while patient safety has become a key policy priority, there is significant variation in the implementation of effective patient safety strategies across countries.

Patient safety issues are very important in LMICs, where health systems are often constrained by limited financial resources, capacity, technology, and human resources. Poor staffing, equipment, workload, training, information systems and reporting processes can all add up to an increased risk of preventable harm. Evidence shows that patient-safety culture in LMICs is deeply shaped by the organizational learning, teamwork, communication, staffing, and management support, highlighting that patient safety goes beyond individual clinical actions to a systems problem (Gebeyehu et al., 2024). The WHO (2021) also recommends a systems approach to leadership, competencies of healthcare workers, incident reporting and learning systems, patient engagement and organizational capacity.

In this context, while Pakistan is a unique setting to examine patient safety in a resource-limited setting, it is also important to explore the context of the entire global experience. There are significant disparities in the quality of healthcare services, infrastructure, staff capacity and institutional resources in Pakistan. In fact, patient safety has made its way into the country's healthcare-quality agenda, but has not been consistently adopted across institutions and sectors. According to Ahmed et al. (2024) the journey towards health care quality and patient safety in Pakistan is a step-by-step process, marked by the growing importance of institutions and professions, and still existing structural and implementation gaps.

These are reflected in empirical research in Pakistan. In a tertiary-care hospital, Ahmed et al. (2023) found the key differences among the various dimensions of the safety culture, suggesting that an organization needs to learn from it, and improve communication. Moniz et al. (2023) also identified patient-safety culture gaps in key components, highlighting the challenges that healthcare workers encounter in ensuring that their current work environments are safe. Another crucial consideration is workforce availability. Both Ziarukh et al. (2024) and Sabir et al. (2024) identified an association between healthcare-worker burnout and patient-safety culture, highlighting the importance of workload and staff well-being as factors that can impact patient-safety culture.

Communication, team-work, reporting and responses to errors are also critical aspects of patient safety. Without effective mechanisms to report incidents, or without staff feeling safe reporting

incidents without the threat of punitive action, there can be less opportunities for the organization to learn. It has been found that reporting and error handling are relatively weaker parts of the research while other areas like teamwork and communication are relatively strong in the Pakistani context (Hameed et al., 2023). The implications for the improvement of patient safety are that simply boosting material resources is not enough; it is also necessary to build institutional cultures that foster learning, accountability, communication and continuous improvement.

Meanwhile, there is a need to enhance patient safety in Pakistan by enhancing healthcare governance, improving the reporting systems, professional education and institutional changes. WHO (2024b) highlights national patient-safety policies, regulatory mechanisms, patient engagement, healthcare-worker education, and systems for reporting and learning as important elements of sustainable improvement of patient safety. Similarly, Pakistani studies show a growing focus on the patient-safety culture and healthcare quality, offering an opportunity for the implementation of more extensive system-level improvements that current initiatives provide (Ahmed et al., 2024).

Despite this body of evidence, earlier research in Pakistan is limited and piecemeal, with many studies conducted on the individual hospital, profession-specific or patient safety-focused dimensions. This means that, at the very least, a holistic study of the interactions between resource constraints, job stress, organizational climate, communication, reporting systems and governance is needed to understand how they affect patient safety. This can be done through a qualitative synthesis of existing evidence, which can help to synthesize the findings from different studies and/or documentary sources that are otherwise spread out.

Based on this, the thematic analysis approach for the qualitative analysis of secondary data is followed in this study to explore patient safety in limited resource healthcare facilities in Pakistan. It emphasizes three interrelated aspects: major challenges to patient safety, organizational and systemic influences on patient safety practices, opportunities and strategies for patient safety improvement. The study aims to offer a contextualized understanding of patient safety in Pakistan and support the development of pragmatic system-oriented measures to prevent patient harm and enhance health system quality and safety.

Problem Statement

Safety of patients is a major problem in Pakistan, especially in the healthcare settings with scarce financial, human, infrastructural and technological resources. The research has highlighted staffing issues, workload, communication, safety culture, error reporting and safety policy implementation as issues. The evidence available is however, scattered among health care institutions and professional groups. There is not much integration between these challenges within resource-limited environments. Hence qualitative synthesis of the available data is required to find the key challenges and areas for improvement that exist in the healthcare sector in terms of patient safety in Pakistan.

Significance of the Study

The study is important as it gives an integrated perspective on the patient-safety issues in the context of resource constrained healthcare system in Pakistan. It integrates the findings of previous research and reports, and highlights common systemic, organizational and professional issues that lead to unsafe care. The study also identifies opportunities for enhancing safety culture, communication, reporting systems, personnel, and health governance. The results could prove beneficial for healthcare administrators, policymakers, practitioners, and researchers in developing strategies that are contextually appropriate to address preventable harm and enhance the quality of healthcare.

Scope of the Study

The study is of patient safety in resource limited healthcare environment of Pakistan. It relies only on secondary data from peer-reviewed research and policy documents, government reports, institutional reports and reputable international sources. The analysis focuses on three general topics: patient-safety issues, factors that affect organizational safety practices, and opportunities for enhancing safety. The study is not a primary study of data collection or direct interaction with patient or health care professionals. The results therefore rely on the documentary evidence that is available and on its thematic interpretation.

Research Objectives

Following are the research objectives:

- To explore the key challenges affecting patient safety in resource-constrained healthcare settings in Pakistan.
- To examine the organizational, systemic, and healthcare-provider-related factors that influence patient safety practices in Pakistan.
- To identify opportunities and potential strategies for improving patient safety within resource-constrained healthcare settings in Pakistan.

Research Questions

The research questions are as follow:

- What are the key challenges affecting patient safety in resource-constrained healthcare settings in Pakistan?
- What organizational, systemic, and healthcare-provider-related factors influence patient safety practices in Pakistan?
- What opportunities and strategies can be adopted to improve patient safety in resource-constrained healthcare settings in Pakistan?

Research Design and Methodology

Research Design

The present study used a qualitative descriptive research design studying patient safety issues and opportunities in resource limited health care in Pakistan. The design was chosen because focus was placed on understanding the structural, organizational, professional and systemic issues that contribute to patient safety rather than the prevalence of those issues or establishing statistical relationships. Qualitative descriptive research is well suited for the purpose of providing a complete description of a phenomenon without losing the close connection to the available evidence (Sandelowski, 2000).

The study was guided by an interpretivist approach as this acknowledged that social and institutional realities are contextually constructed, meaningfully negotiated, and experientially lived by humans (Creswell & Poth, 2018). This definition of patient safety differed from the traditionally perceived technical or clinical problem and was seen as a multidimensional phenomenon affecting the patient safety as a result of the availability of resources, organizational practices, professional competencies, communication, safety culture, governance and implementation of policy within the healthcare infrastructure. This orientation helped the study understand the issues of patient safety in the context of the realities of healthcare in Pakistan.

The study did not collect data from the respondents, but it used secondary qualitative data from available literature and documents. This was suitable, as there was already a large body of evidence on healthcare quality, patient safety, medical errors, healthcare-system constraints, and policy responses in Pakistan in academic and institutional literature. When data is relevant and adequate to address the research questions, secondary data analysis can be used to gain new interpretations and insights from previously collected material (Johnston, 2014).

Data Sources and Selection

Secondary data collected from the peer reviewed academic publications, policy and government documents, reports of international health organizations, healthcare guidelines, institutional publications and other the credible documentary sources relevant to patient safety in Pakistan. Specific focus was placed on sources that touched upon patient safety practices, medical errors, adverse events, healthcare quality, culture of safety, healthcare worker constraints, infrastructure limitations and policy/institutional responses.

The selection of sources used was purposeful and relevant. The documents selected were those that gave content to one or more of the research questions of the study. Literature was searched using combinations of relevant keywords and phrases in the relevant scholarly databases to identify academic literature focusing on patient safety in Pakistan. Patient safety-related literature was identified by conducting a search using combinations of relevant keywords and phrases in the

relevant scholarly databases. Further, relevant reports and policy documents from reputed governmental and international health organisations have been reviewed.

After the initial search, the sources were selected based on their relevance to the research goals, credibility, contextual relevance and availability of substantive information. Sources that did not specifically focus on patient safety and the healthcare situation in Pakistan were not included. The process ensured that the final data-set was kept to the point and that it was relevant in a way for analysis.

Secondary Data Analysis

The research used a qualitative secondary data analysis as the main method. Secondary analysis refers to analyzing and reinterpreting data that was originally collected for another purpose, but which can be used for research questions that are not the same as or extend the original purpose of the data collection (Johnston, 2014). In this study, relevant information on patient safety issues was collected from the literature or documentary sources selected and arranged in the appropriate sequences of the research questions.

The collected data was compiled into an analytical matrix with data about the source, the healthcare setting, the key patient-safety concerns, the risk factors, the reported barriers, the institutional responses, and the recommendations for improvement. This enabled the comparison of the various sources, and assisted in highlighting common themes and differences in the understanding and approach to patient safety within different health care settings.

A secondary-data approach was also included in the strategy: document analysis. Documents can offer context information, and can be analyzed systematically for meaning, patterns and pertinent evidence (Bowen, 2009). Therefore, policy documents, institutional reports and healthcare guidelines were examined along with academic research to gain a wider perspective over the issues raised and institutional efforts on patient safety in Pakistan.

Thematic Analysis

Thematic analysis (Braun & Clarke, 2006) was used to analyze the secondary data collected. Thematic analysis was judged to be more appropriate as it was flexible, but still systematic, when identifying patterns in varied types of qualitative information. It allowed the study to transcend a source-by-source summary to the creation of integrated themes related to patient safety within the chosen set of literature.

The analysis was carried out in six interrelated stages. The researcher first learned the data by frequently reading the selected articles, reports, policies and other materials. Second, statements, findings and concepts which were relevant to patient safety were identified, and initial codes were generated. Thirdly, related codes were clustered to create potential themes. The four steps followed were: First, the emerging themes were reviewed through the coded material and the whole data set

for coherence and relevance; Second, the themes were reviewed to take into account the conflicting results; Third, the themes were checked against the coded material and the general data set for coherence; Fourth, the themes were checked for coherence and relevance. Fifthly, themes were well defined and given substance-specific names. Lastly, themes were integrated and situated within the research questions, Pakistani health care settings, and previous research (Braun & Clarke, 2006).

Inductive and deductive elements were included in the analysis. The initial coding was sufficiently open to enable themes to develop from the data and the research aims offered an organising framework to explore three broad categories: challenges to patient safety, factors influencing patient safety practices and opportunities for improvement. This balance facilitated analytical flexibility, and kept findings readily linked to the study's purpose.

Analytical Focus

Themes that emerged from the thematic analysis were related to the structural and operational environments in which the care of patients is provided in resource-limited environments. Specific attention was paid to pertinent problems related to insufficient numbers of healthcare workers, high workload, poor infrastructure and equipment, lack of finances and technology, communication and teamwork, professional training, medication and clinical errors, patient safety culture, incident reporting, leadership and governance, and enactment of patient-safety policies.

Potential areas for improvement were identified throughout the sources and analysed. These involved augmenting the training of health care workers, fostering communication and team working, establishing effective reporting and learning, augmenting institutional leadership and accountability, augmenting the allocation of resources, augmenting patient and family engagement and translating national and international patient-safety policies into contextually appropriate practices. WHO (2021) states that enhancing patient safety needs to be done through a systems-based approach that includes leadership, competency of health-care workers, safe clinical processes, learning systems, patient engagement, and organizational capacity.

Importantly, these areas were considered not to exist separately, but as interconnected. Limited resources, for instance, can lead to staffing and workload issues, which can then impact communication, implementation of safety protocols and reporting and learning from adverse events. The thematic approach could thus be used to understand patient safety as a systemic problem, and not just the result of individual health worker mistakes.

Trustworthiness and Rigor

Several measures were used to increase the validity and methodology of the study. Multiple categories of secondary sources were used and not just one type of publication. Academic research was included and policy documents, institutional reports, and publications from reputable health bodies were used to draw comparisons between the different evidence sources.

Qualitative rigor was evaluated by following the criteria suggested by Lincoln and Guba (1985) of credibility, transferability, dependability, and confirmability. Creative, thoughtful comparison of evidence from multiple sources and multiple re-examination of themes reinforced credibility. Transferability was enhanced by providing context of patient safety in Pakistan's resource-constrained healthcare system. The problem of dependability was dealt with by selecting sources, extracting data, coding it and developing themes that were transparent and systematic. Grounding in the evidence of the documents and separation of evidence-based findings from the researcher's analytical interpretation contributed to the confirmability of the interpretations.

Ethical Considerations

Ethical principles have been adhered to during the research process, although there were no direct interactions with human participants in the study. Appropriate acknowledgment and referencing of all secondary sources were provided in accordance with APA 7th edition standards. The study was conducted without plagiarism, misrepresentation, selective distortion of the results and improper attribution. The historical events and information in the documents were analyzed in their historical setting and reported as accurately and transparently as possible. Care was taken not to unnecessarily disclose or misrepresent information in institutional or organizational documents that may have been sensitive.

Literature Review

Patient safety has emerged as a key aspect of healthcare quality and across the world, evidence shows that preventable harm is prevalent in healthcare systems. According to the World Health Organization (WHO, 2023), nearly 10% of patients suffer as a result of health care treatment, with over three million patients dying each year due to poor care. Patient-safety risks are more severe in low and middle income countries (LMICs), where additional vulnerabilities in infrastructure, staffing, clinical processes, financing, and governance can exacerbate patient-safety risks. The Global Patient Safety Report 2024 also highlights the uneven and insufficient implementation of national patient safety strategies, reporting systems, patient engagement, and patient safety initiatives, despite their recognition in international policies (World Health Organization [WHO], 2024a). These results confirm that patient safety is not only a clinical problem, but a health-system problem as well.

There has been a growing number of recent publications that relate to safety culture and systems thinking in relation to patient safety. A scoping review of 248 studies from 64 countries by Carvalho et al. (2023) highlighted these factors as being important determinants of safety culture: leadership commitment, open communication, learning from errors, team work, transparency, and an appropriate balance between accountability and non-punitive responses. Similarly, Vibe et al. (2024) identified that organizational and professional factors also have a significant effect on safety culture, highlighting the importance of leadership, teamwork, staffing, communication, and working conditions. Evidence also shows significant differences between nurses in the world regarding patient-safety culture, with the majority scoring higher on the organizational learning

and teamwork dimensions compared to staffing and error-reporting (Alharthi et al., 2025). The results in this report indicate that patient safety can be improved if patient safety environments are able to learn from mistakes and identify risks before they arise, rather than simply pointing fingers after.

This is especially a problem in resource-limited health care environments. A systematic review and meta-analysis of LMICs by Gebeyehu et al. (2024) identified significant differences in safety culture and identified ongoing gaps in staffing, communication, management support, and practices of safety reporting. African health care systems also show that resource constraints and organizational shortcomings increase the risk of harm being preventable. (Kebede et al., 2024) Pichumani et al. (2025) suggest that it is essential to tailor patient-safety strategies to local contexts in LMICs, as they cannot be simply imported from high-income nations. WHO (2025) also focuses on approaches that are contextual, including low-cost and sustainable strategies to enhance quality, infection prevention, and patient safety in resource-limited settings.

One of the most consistently reported factors affecting patient safety is the capacity of the health care workforce. Abu Zaitoun et al. (2023) showed that there was a relationship between nursing competence and patient-safety culture, implying that higher levels of professional knowledge and clinical competence positively affect patient safety. Agbar et al. (2023) conducted a systematic review and meta-analysis to identify patient-safety education interventions that have a positive impact on healthcare worker safety culture. Finn et al. (2024) also identified interventions focused on safety culture as a way to enhance staff outcomes, especially when coupled with leadership, teamwork, organizational commitment, and continued implementation. The results of these investigations have implications for systems with limited resources, such as when there are insufficient trained staff members or opportunities to continue professional development and thereby compromise safety practices.

Another theme in the literature is communication, collaboration, and incident reporting. Effective communication between practitioners, departments and shifts is essential for safety. Kaya et al. (2023) showed that there was a relationship between patient-safety culture, patient-safety error management culture, patient-safety incident reporting culture, and overall perceptions of patient-safety culture. Likewise, teamwork/communication-focused interventions have been linked to better safety culture and patient outcomes (Alsabri et al., 2022). New research also highlights the importance of reporting systems that are seen as a learning tool, not punishment. A systematic review of incident-reporting systems in healthcare organizations across Africa revealed significant flaws in incident reporting and highlighted the need for incident-reporting systems that are context-sensitive and based on learning in low-resource settings (Teshome et al., 2025). Therefore, the design of patient-safety systems must include a framework for formal reporting, and a culture that supports and incentivizes health care workers to report errors and near misses.

Another key element of patient safety relates to medication safety. Medication-related harms are a significant and largely preventable form of health harm, especially in the context of weak prescribing, dispensing, administration and monitoring systems, as confirmed by the WHO

systematic review of preventable medication-related harm (WHO, 2024b). There is evidence to support these fears in Pakistan. Abdullah et al. (2024) found inconsistencies in doctors' prescribing behavior and medication-related risks in Rawalpindi city. In addition, the inappropriate prescribing of medicines was found to be a significant patient safety issue in the study of prescription errors in type-2 diabetes patients in KP (Khan et al., 2023). The results indicated that there is a need for the standards of medication prescription, professional training, medication review, documentation and multi-disciplinary collaboration to be improved for medication safety.

The Pakistani literature increasingly offers signs on these larger issues. The study conducted by Ahmed et al. (2023) on patient-safety culture at Aga Khan University Hospital revealed relatively good results for feedback and communication about errors, for organizational learning and for teamwork. In some regards, however, such as staffing and nonpunitive corrections for errors, the dimensions were less strong. Hameed et al. (2023) found similar levels of organizational learning and teamwork at a public hospital in Lahore, as well as low levels of staffing and non-punitive responses to errors. The results presented here show that some structural obstacles to patient safety can exist even in relatively developed healthcare institutions.

This trend is supported by evidence from other health care settings in Pakistan. In a secondary care hospital, Ziarukh and Sabir (2024) associated the burnout of healthcare workers to patient safety culture, underlining the significance of workload and employee health. Another important threat to patient safety and quality of care was identified by Naseem et al. (2024) who singled out staff shortages. Leadership, organizational learning, communication and non-punitive reporting practices are key factors in building a positive safety culture in a tertiary-care environment, according to Bashir et al. (2024). These studies suggest that the human-resource constraints and organizational culture are intertwined in Pakistan.

Patient safety issues are not limited to the hospital setting. In the study conducted by Khatri et al., 2024, on community pharmacies in Karachi, they identified that the overall perception of safety and response to errors were weak and communication-related aspects were comparatively good. Other safety concerns are documentation and continuity of care. In 2024, a clinical audit at Mardan Medical Complex revealed significant shortcomings in discharge documentation, such as missing medication details and poor provision of follow-up instructions, with a 20% rate of such failures (Khan et al., 2024). These findings indicate that patient safety may be compromised during the transitions of care when there is a failure to transfer information and when patients' medications, follow up, and treatment may be affected.

There are also opportunities for technological and educational improvement in the recent research. Mitha and Mashhadi (2025) identified significant differences between consultants' and residents' non-technical patient-safety skills, especially related to communication and adverse-event reporting. While acknowledging the potential of AI to enhance patient safety in Pakistan, Haider (2025) identifies key implementation challenges, including infrastructure, workforce readiness, ethics, and governance. Patient-safety education has also become more prevalent in the medical and nursing programs of Pakistan, providing a significant chance to build patient-safety skills

among healthcare professionals of the future (Ayub et al., 2024). Globally, WHO (2025) recommends flexible best practices and, in relation to safety-culture interventions, research focuses on long-term leadership, teamwork, education, and organizational learning (Finn et al., 2024).

In general, the published evidence reveals that there are many structural, organizational, and professional factors which affect patient safety in Pakistan in combination. Current studies in Pakistan have produced some useful evidence on safety culture, staffing, burnout, medication practices, communication, reporting, and documentation; however, much of this is either institution-specific or focuses on one aspect of patient safety. The impact of these factors on each other in a resource-limited healthcare environment is comparatively under-researched and under-integrated analyzed. This study aims to bridge this gap by drawing on previous research and using qualitative secondary-data analysis and thematic analysis. It brings attention to three inter-related aspects; namely challenges to patient safety; organizational and systemic dimensions that influence patient safety practices; and opportunities to enhance patient safety in Pakistan.

Findings and Discussion

The thematic analysis of the selected secondary literature identified five major themes concerning patient safety in resource-constrained healthcare settings in Pakistan: (1) resource and staffing constraints, (2) weaknesses in safety culture and error reporting, (3) communication and teamwork, (4) gaps in training and patient-safety competencies, and (5) opportunities for system-level improvement. The findings demonstrate that patient safety in Pakistan is not primarily an isolated clinical problem but a systemic issue shaped by the interaction of organizational, human-resource, institutional, and policy-related factors.

Resource Constraints and Staffing Shortages

The theme that was most visible and obvious was the effect of poor resource availability and staffing levels on patient safety. The evidence reviewed was consistent that limited healthcare staffing, high workloads, lack of infrastructure and limited institutional resources create conditions that could lead to error and/or poor quality care. Staffing had the lowest patient-safety rating among the other domains, with healthcare professionals noticing that inadequate staffing was a significant challenge to ensure safe care in a tertiary-care public hospital in Lahore (Hameed et al., 2023). Likewise, staffing was found among the lower scores of patient-safety culture at a tertiary-care hospital in Karachi with comparatively favorable perceptions of teamwork and organizational learning (Ahmed et al., 2023).

These results indicate that the impact of resource constraints on patient safety has several interrelated pathways. Low staffing levels can lead to additional workload, fatigue, and less time to interact with patients, and make it harder to adhere to safety measures and communicate effectively. Ziarukh and Sabir (2024) also found burnout to be a major concern related to patient-safety culture in a secondary-care hospital. Therefore resource limitations are not only equipment

and/or budget constraints, but also limitations of the capacity of healthcare organisations to provide safe working conditions.

Safety Culture, Error Reporting, and Non-Punitive Responses

Another large discovery was that there were patient-safety culture issues, such as how patients should react to errors and the reporting of incidents. While teamwork, organizational learning and feedback were somewhat stronger organizational characteristics that were observed in some healthcare institutions in Pakistan, non-punitive responses to errors consistently appeared as a weaker dimension. Ahmed et al. (2023) found that, non-punitive response to error and staffing were among the lowest scores in the study of tertiary-care hospital in Karachi, while feedback and communication about errors and organizational learning were comparatively high. Similar results were obtained in a public hospital in Lahore, where there was low acceptance of non-punitive reactions with errors and staffing (Hameed et al., 2023).

The discovery is particularly important because a patient safety system is only as effective as its capacity to enable healthcare employees to report errors and near-misses without fear of unfair punishment. If errors are mostly blamed on someone, health care providers might not report errors, thus reducing opportunities for institutional learning. WHO (2024) states that reporting and learning systems are key pillars of national patient-safety improvement. Hence, the need of Pakistan is to adopt a different perspective from the individual blame towards a learning culture of patient safety, where errors are investigated in terms of systems and processes.

Communication, Teamwork, and Organizational Learning

The third strand was about the significance of communication, teamwork and organisational learning. Quite remarkably, these areas came out as relative strengths in a few studies from Pakistan. Hameed et al. (2023) has found high scores for organizational learning and continuous improvement and unit teamwork. Likewise, Ahmed et al. (2023) revealed high levels of feedback and communication about errors, organizational learning, and teamwork.

The findings suggest that Pakistan's healthcare institutions have significant internal capabilities which can be leveraged to build upon to enhance patient safety. Yet, while good team working within individual units can ensure good care working across departments and between care settings, it is not the same thing. This means that enhancing patient-safety should be a much wider initiative, not just at the team level, but also by improving communication between teams and departments, as well as reducing and eliminating handoffs, referrals and information gaps.

The findings also help to cultivate a systems-based approach to patient safety. WHO (2024) highlights that, coordinated efforts among healthcare professionals, managers, policymakers, patients, and other stakeholders are essential for patient safety. Therefore, in Pakistan, enhancing teamwork and communication protocols could be a relatively achievable and inexpensive first step towards boosting safety at the work site, especially in resource-limited settings.

Training and Patient-Safety Competencies

The fourth theme was education and competency among HCWs. The literature reviewed suggests that in addition to having sufficient numbers of health care workers, they must have the necessary knowledge, skills, communication skills, and knowledge of safety procedures to ensure patient safety. Patient-safety education and non-technical skills have been gaining more attention in recent Pakistani research as key elements of health care training.

For instance, Ayub et al. (2024) reported an increase in interest in teaching students about patient safety, which highlights the need to educate future health care professionals to identify and address patient safety issues. Likewise, studies of healthcare professionals' practices indicated that patient safety skills encompass more than just clinical skills—they also involve communication, teamwork, decision making, situational awareness, and incident reporting.

The results accordingly indicate that investment in continuous professional development and patient-safety education may offer an opportunity to Pakistan. These interventions could be especially beneficial in resource-limited areas as it is likely that enhancing knowledge, communication, teamwork, and reporting practices may lead to improvements in safety without significant infrastructure investments.

Opportunities for System-Level Improvement

The last theme was related to enhancing patient safety. The literature shows that the patient safety initiatives are not new in Pakistan. Instead, over time there has been incremental attention, however, at the institutional, professional, regulatory and policy level related to healthcare quality and patient safety. Ahmed et al. (2024) describe the patient-safety journey in Pakistan as one of continuous struggle and incremental gains characterized by greater engagement of health institutions, health professionals, regulators, and others.

Opportunities that emerge from the findings are linked together. First, incident-reporting and learning systems can be improved in healthcare organizations and non-punitive approaches to error management can be established. Second, the enhancement of workforce planning and reduction of overloading can solve one of the weaknesses that is constantly found. Thirdly, a reinforcement of patient-safety education can enhance the knowledge and non-technical skills of healthcare professionals. Fourth, current good practices in team working and organisational learning could be developed by improving the inter-departmental communication and leadership support.

These opportunities align with the WHO Global Patient Safety Report 2024, highlighting the following key elements for improving patient safety: national policies, leadership, patient engagement, education, reporting and learning systems, and coordinated stakeholder action. Importantly, interventions in Pakistan should be context-sensitive, resource-sensitive rather than copying patient-safety models created in the high-income healthcare system.

Overall Discussion

The results collectively highlight the effects of a vicious cycle of interrelated systemic factors on patient safety in Pakistan. Workload and burnout are caused by staffing shortages and limited resources, which can lead to reduced communication, monitoring and compliance with safety protocols, and hinder organisations from learning from mistakes due to poor reporting cultures. Concurrently, there are also some institutions with relatively good teamwork and organizational learning, which can serve as the starting point for enhancing them.

Therefore, the key finding of this study is that patient safety must be viewed as a system problem and not a problem for individual care. The challenge Pakistan faces is not only on the resource side but also the utilization of available resources through building strong safety cultures, better communication, supportive leadership, professional education, reliable reporting system and regular organizational learning. This interpretation aligns with the worldwide movement towards systems thinking in patient safety care (WHO, 2021; 2024).

In sum, the evidence indicates that Pakistan is moving forward over time but there are substantial gaps in implementation. Staffing, workload, error reporting, non-punitive responses, and institutional capacity are the most urgent needs, whereas teamwork, institutional learning, patient-safety education, leadership, and improved error reporting and learning are the most promising areas for improvement. Solutions to these mutually dependent domains may make significant strides in patient safety in resource-limited health care environments where large-scale financial and material funding is not available at that very moment.

Conclusion

In Pakistan, patient safety in resource-limited healthcare environments is a multi-faceted issue that is influenced by a complex web of systemic, organizational, and human factors. The secondary evidence thematic analysis shows that the most significant barriers to safe healthcare delivery include inadequate staffing, workload, inadequate infrastructure, inadequate reporting of errors, poor communication and poor patient-safety competencies. Simultaneously, indications of relatively good team working, learning within the organisation and increasing institutional focus on patient safety shows that there are opportunities for improvement. The results indicate that patient safety should be tackled as a systemic issue, not as a clinical issue. Supportive reporting and learning mechanisms, better training of healthcare workers, building up the capacity of healthcare workers, improving communication and team working, and leadership and governance can help to ensure healthcare workers are provided with safer care. It is important that patient-safety interventions are context specific, sustainable, and context appropriate in Pakistan, and are not just dependent on models developed in high income healthcare systems. In general, an integrated systems approach that builds on existing good practice across the healthcare system while focusing on key areas for culture and staff capacity development, reporting, and governance will help minimize preventable harm and enhance health system quality and safety in Pakistan.

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